

CLAIMS

What is claimed is:

1. A method of multicasting messages in a wireless network comprising:
receiving a multicast message addressed to a multicast group at a base
station processor having a plurality of wireless channels;
determining a plurality of multicast group members; and
sending, over one of said wireless channels, said multicast message,
wherein the same one of said wireless channels is used to simultaneously send
said multicast message to said plurality of multicast group members.
- 10 2. The method of Claim 1 further comprising receiving said message at each of the
plurality of multicast group members via said same wireless channel.
3. The method of Claim 2 wherein receiving said message further comprises
concurrently receiving said multicast message at each of said plurality of
multicast group members.
- 15 4. The method of Claim 1 wherein sending said multicast message is preceded by:
selecting, from among said plurality of wireless channels, a multicast
channel adapted to transmit said multicast message; and
sending, via one of said plurality of wireless channels to each of the
multicast group members, a paging message indicative of said multicast channel
over which to receive said multicast message, wherein said paging message is
transmitted simultaneously to each of said multicast group members.

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5. The method of Claim 1 wherein said base station processor is operable to communicate with a plurality of subscriber access units adapted for communication in a wireless network via said plurality of wireless channels and said multicast group members comprise a subset of said plurality of said subscriber access units.
6. The method of Claim 5 wherein determining further comprises:
5 performing a lookup in a routing table adapted to store entries associating a multicast group with an interface identifier; and
10 performing a lookup in an interface table adapted to associate said interface identifier with at least one of said plurality of subscriber access units, wherein each of said plurality of subscriber access units associated with the same interface identifier comprises said multicast group members.
7. The method of Claim 6 wherein sending further comprises:
15 performing a lookup in a connection table adapted to store connection identifier entries indicative of an association between at least one of said plurality of wireless channels and at least one of said plurality of subscriber access units.
8. The method of Claim 6 further comprising:
20 receiving a join group request indicative of at least one of said plurality of multicast group members; and
adding an interface entry in said interface table indicative of an association between said at least one multicast group member indicated in said join group request and said multicast group.
- 25 9. The method of Claim 8 further comprising receiving a join group request indicative of at least one other of said multicast group members; and

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adding an interface entry in said interface table indicative of an association between at least one other of said multicast group members and said multicast group.

10. The method of Claim 1 wherein determining said multicast group members further comprises:
 - 5 scanning said multicast message; and
 - parsing a group address indicative of a multicast group.
11. The method of Claim 10 wherein said group address conforms to a protocol and said parsing comprises parsing in accordance with said protocol.
- 10 12. The method of Claim 11 wherein said protocol is the Internet Group Management Protocol (IGMP).
13. A system for multicasting messages in a wireless network comprising:
 - 15 a base station processor having a plurality of wireless channels operable to transmit a wireless message; and
 - a plurality of subscriber access units in communication with said base station processor over a wireless connection and adapted to receive messages via said plurality of wireless channels, wherein said base station processor is operable to receive a multicast message and simultaneously transmit said multicast message to at least one of said plurality of subscriber access units via the same one of said plurality of wireless channels.
- 20 14. The system of Claim 13 wherein said base station processor further comprises a routing table adapted to store entries indicative of an association between each of said plurality of subscriber access units and an interface, wherein said

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subscriber access units corresponding to the same interface comprise a multicast group.

15. The system of Claim 14 further comprising an interface table adapted to store entries indicative of an association between each of said plurality of subscriber access units and a wireless connection, wherein each of said subscriber access units in said multicast group correspond to the same interface.
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16. The system of Claim 15 wherein each of said entries in said interface table corresponds to a connection indicative of one of said plurality of wireless channels, and wherein each of said subscriber access units in said multicast group correspond to the same one of said plurality of wireless channels.
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17. The system of Claim 14 wherein said base station processor further comprises:
a connection table adapted to store entries indicative of an association between at least one of said plurality of subscriber access units with at least one of said plurality of wireless channels, wherein said connection table is indicative of a common channel allocated to said plurality of subscriber access units which comprise said multicast group.
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18. The system of Claim 14 wherein said routing table further comprises entries including a group address and a corresponding one of said interface IDs, wherein said group address is indicative of one of said multicast groups.
- 20 19. The system of Claim 18 wherein said group address conforms to a predetermined protocol.
20. The system of Claim 19 where said predetermined protocol is IGMP.

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21. The system of Claim 14 wherein only the subset of the plurality of subscriber access units in said multicast group decode said multicast message.
22. The system of Claim 13 further comprising a scheduler operable to designate which of said plurality of subscriber access units receive said multicast message on a predetermined one of said plurality of wireless channels.
- 5 23. The system of Claim 22, wherein said scheduler is further operable to designate a plurality of subscriber access units to receive said multicast message over the same one of said plurality of wireless channels.
- 10 24. The system of Claim 17, wherein said scheduler is further operable to query said connection table, wherein said same one of said plurality of wireless channels corresponds to subscriber access units associated with a common interface ID.
- 15 25. The system of Claim 24 further comprising a paging channel in communication with said scheduler, wherein said paging channel is operative to send a paging message to each of said plurality of subscriber access units in said multicast group indicative of one of said wireless channels to be used for receiving said multicast message.
- 20 26. The system of Claim 15 wherein said subscriber access units are added to said multicast group via a join group message, wherein said join group message is indicative of an additional subscriber access unit and said multicast group and said base station processor is further operative to store a new entry in said interface table indicative of said additional subscriber access unit and said multicast group.

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27. The system of Claim 15 wherein said subscriber access units are removed from said multicast group via a leave group message, wherein the leave group message is indicative of a deleted subscriber access unit and said multicast group and said base station processor is further operative to delete an entry from said interface table indicative of said deleted subscriber access unit and said multicast group.
28. The system of Claim 13 wherein the base station processor is in communication with an Internet gateway operable to transmit messages via a public access network.
- 10 29. A computer program product having computer program code for multicasting messages in a wireless network comprising:
computer program code for receiving a multicast message addressed to a multicast group at a base station processor having a plurality of wireless channels;
- 15 computer program code for determining a plurality of multicast group members; and
computer program code for sending, over one of said wireless channels, said multicast message, wherein the same one of said wireless channels is used to simultaneously send said multicast message to said plurality of multicast group members.
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30. A computer data signal including computer program code for multicasting messages in a wireless network comprising:
program code for receiving a multicast message addressed to a multicast group at a base station processor having a plurality of wireless channels;
25 program code for determining a plurality of multicast group members;
and

program code for sending, over one of said wireless channels, said multicast message, wherein the same one of said wireless channels is used to simultaneously send said multicast message to said plurality of multicast group members.

- 5 31. A system for multicasting messages in a wireless network comprising:

means for receiving a multicast message addressed to a multicast group at a base station processor having a plurality of wireless channels;

means for determining a plurality of multicast group members; and

means for sending, over one of said wireless channels, said multicast message, wherein the same one of said wireless channels is used to simultaneously send said multicast message to said plurality of multicast group members.

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